

IN THE CLAIMS

1.-16. (Canceled)

17. (Previously Presented) A computer-implemented method for using a contract object, comprising:

identifying a first object;

identifying a second object;

determining a relationship between the first object and the second object;

using the contract object to represent the relationship between the first object and the second object;

associating a first rule with the contract object the first rule including a first event that can occur to the first object and a first action;

receiving the first event;

accessing the first rule associated with the contract object; and

updating at least one of the contract object and the second object according to the first action responsive to the first event.

18. (Original) A computer-implemented method according to claim 17, wherein:

identifying a first object includes identifying a plurality of first objects;

determining a relationship includes determining a plurality of relationships between each of the first objects and the second object; and

using the contract object includes using a plurality of contract objects to represent the plurality of relationships between the plurality of first objects and the second object.

19. (Original) A computer-implemented method according to claim 18, wherein each contract object represents the relationship between exactly one of the plurality of first objects and the second object.

20. (Original) A computer-implemented method according to claim 17, wherein:

identifying a first object includes identifying a plurality of first objects;

identifying a second object includes identifying a plurality of second objects;

determining a relationship includes determining a plurality of relationships between the plurality of first objects and the plurality of second objects; and

using the contract object includes using a plurality of contract objects to represent the plurality of relationships between the plurality of first objects and the plurality of second objects.

21. (Original) A computer-implemented method according to claim 20, wherein each contract object represents the relationship between exactly one of the plurality of first objects and exactly one of the plurality of second objects.

22. (Original) A computer-implemented method according to claim 17, wherein using the contract object includes:

storing a first locator for the first object in the contract object; and

storing a second locator for the second object in the contract object.

23. (Original) A computer-implemented method according to claim 22, wherein: storing a first locator includes:

assigning a first identifier to the first object; and

storing the first identifier in the contract object; and

storing a second locator includes:

assigning a second identifier to the second object; and

storing the second identifier in the contract object.

24. (Original) A computer-implemented method according to claim 17, further comprising storing a metadata for the first object in the contract object.

25. (Canceled)

26. (Previously Presented) A computer-implemented method according to claim 17, further comprising associating a second rule with the contract object, the second rule including a second event that can occur to the second object and a second action.

27. (Original) A computer-implemented method according to claim 17, wherein:
identifying a first object includes identifying a file object; and
identifying a second object includes identifying a collection object.
28. (Original) A computer-implemented method according to claim 17, further comprising:
storing a third locator for the contract object in the first object; and
storing a fourth locator for the contract object in the second object.
29. (Original) A computer-implemented method according to claim 17, further comprising assigning a third identifier to the contract object.
30. (Original) A computer-implemented method according to claim 29, further comprising:
associating the third identifier of the contract object with the first object; and
associating the third identifier of the contract object with the second object.
31. (Original) A computer-implemented method according to claim 17, further comprising recording an entry in a transaction log, the entry recording the use of the contract object.
32. (Original) A computer-implemented method according to claim 31, further comprising using the entry to reconstruct the contract object after the contract object is lost.
33. (Original) A computer-implemented method according to claim 31, further comprising removing the entry from the transaction log after the contract object represents the relationship between the first object and the second object.
- 34.-43. (Canceled)

44. (Previously Presented) Computer-readable media containing a program to use a contract object, the program comprising:

software to identify a first object;

software to identify a second object;

software to determine a relationship between the first object and the second object;

software to use the contract object to represent the relationship between the first object and the second object;

software to associate a first rule with the contract object, the first rule including a first event that can occur to the first object and a first action;

software to receive the first event;

software to access the first rule associated with the contract object; and

software to update at least one of the contract object and the second object according to the first action responsive to the first event.

45. (Original) Computer-readable media according to claim 44, wherein:
the software to identify a first object includes software to identify a plurality of first objects;

the software to identify a second object includes software to identify a plurality of second objects;

the software to determine a relationship includes software to determine a plurality of relationships between the plurality of first objects and the plurality of second objects; and

the software to use the contract object includes software to a plurality of contract objects to represent the plurality of relationships between the plurality of first objects and the plurality of second objects.

46. (Original) Computer-readable media according to claim 45, wherein each contract object represents the relationship between exactly one of the plurality of first objects and exactly one of the plurality of second objects.

47. (Canceled)

48. (Original) Computer-readable media according to claim 44, further comprising software to assign a third identifier to the contract object.

49. (Original) Computer-readable media according to claim 48, further comprising:
software to associate the third identifier of the contract object with the first object; and
software to associate the third identifier of the contract object with the second object.

50. (Original) Computer-readable media according to claim 44, further comprising software to record an entry in a transaction log, the entry recording the use of the contract object.

51. (Original) Computer-readable media according to claim 50, further comprising software to remove the entry from the transaction log after the contract object represents the relationship between the first object and the second object.

52. (Canceled)

53. (Canceled)

54. (Previously Presented) A computer-implemented method according to claim 17, wherein:
the first event includes a rename event; and
the first action includes an update to a metadata item for the first object in the contract object.

55. (Previously Presented) A computer-implemented method according to claim 17, wherein:
the first event includes a delete event; and
the first action includes a disassociation of the contract object from the second object and a delete of the contract object.

56. (Currently Amended) A computer-implemented method according to claim 17, wherein:

the first event includes a move event to move the first object from the second object to a third object; and

the first action includes a ~~remove~~removal of the association from the contract object to the second object and an ~~add~~addition of an association from the third object to the contract object.

57. (Previously Presented) A computer-implemented method according to claim 17, further comprising associating a third rule with the contract object, the third rule including a third event that can occur to the first object and a third action.

58. (Previously Presented) A computer-implemented method according to claim 57, further comprising:

receiving the third event;

accessing the third rule associated with the contract object; and

updating at least one of the contract object and the second object according to the third action responsive to the third event.

59. (Previously Presented) A computer-implemented method according to claim 58, wherein accessing the third rule includes selecting the third rule from a plurality of rules based on receiving the third event occurring to the first object.

60. (Previously Presented) A computer-implemented method according to claim 26, further comprising:

receiving the second event;

accessing the second rule associated with the contract object; and

updating at least one of the contract object and the first object according to the second action responsive to the second event.

61. (Previously Presented) A computer-implemented method according to claim 60, wherein accessing the second rule includes selecting the second rule from a plurality of rules based on receiving the second event occurring to the second object.

62. (Previously Presented) Computer-readable media according to claim 44, wherein:

the first event includes a rename event; and

the first action includes an update of a metadata item for the first object in the contract object.

63. (Previously Presented) Computer-readable media according to claim 44, wherein:

the first event includes a delete event; and

the first action includes a disassociation of the contract object from the second object and a delete of the contract object.

64. (Currently Amended) Computer-readable media according to claim 44, wherein:
the first event includes a move event to move the first object from the second object to a third object; and

the first action includes a ~~remove~~removal of the association from the contract object to the second object and an ~~add~~addition of an association from the third object to the contract object.

65. (Previously Presented) Computer-readable media according to claim 44, further comprising software to associate a third rule with the contract object, the third rule including a third event that can occur to the first object and the third rule further including a third action.

66. (Previously Presented) Computer-readable media according to claim 65, further comprising:

software to receive the third event;

software to access the third rule associated with the contract object;
and software to update at least one of the contract object and the second object according to the third action responsive to the third event.

67. (Previously Presented) Computer-readable media according to claim 66, wherein the software to access the third rule includes software to select the third rule from a plurality of rules based on receiving the third event occurring to the first object.

68. (Previously Presented) Computer-readable media according to claim 44, further comprising software to associate a second rule with the contract object, the second rule including a second event that can occur to the second object and a second action.

69. (Previously Presented) Computer-readable media according to claim 68, further comprising:
software to receive the second event;
software to access the second rule associated with the contract object; and
software to update at least one of the contract object and the first object according to the second action responsive to the second event.

70. (Previously Presented) Computer-readable media according to claim 69, wherein the software to access the second rule includes software to select the second rule from a plurality of rules based on receiving the second event occurring to the second object.

71. (Previously Presented) A computer-implemented method according to claim 17, wherein:
identifying a first object includes identifying first spreadsheet object; and
identifying a second object includes identifying a second spreadsheet object.